

A. FRANKFELD.

Manufacture of Music-Box Cylinders.

No. 144,084.

Patented Oct. 28, 1873.

Fig. 1.

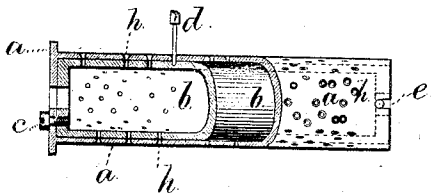
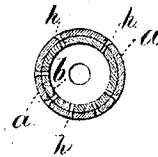


Fig. 2.



Witnesses,

Charles Smith
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Inventor,

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per Lemuel W. Perrell
att.

UNITED STATES PATENT OFFICE.

ARNOLD FRANKFELD, OF NEW YORK, N. Y.

IMPROVEMENT IN THE MANUFACTURE OF MUSIC-BOX CYLINDERS.

Specification forming part of Letters Patent No. **144,084**, dated October 28, 1873; application filed October 11, 1873.

To all whom it may concern:

Be it known that I, ARNOLD FRANKFELD, of the city and State of New York, now residing in Geneva, Switzerland, have invented an Improvement in the Manufacture of Music-Box Cylinders, of which the following is a specification:

The cylinders of music-boxes are now marked off by hand at the places where holes are to be bored to receive the steel pins which represent the notes in the piece of music to be played by the instrument. This operation of marking the cylinder is very tedious, requires great skill and care on the part of the workman, and said workman must have a thorough knowledge of music; besides, if several cylinders to play the same music are required, each cylinder requires to be marked off by hand.

My improvement consists in a pattern-cylinder upon which the notation is made as usual, and the holes bored at the places indicated; but said cylinder is made sufficiently large to receive within it the cylinder for the music-box, and the two cylinders are clamped or secured firmly together. The holes are now made in the music-box cylinder by simply inserting the boring-tool successively in the various holes in the pattern-cylinder, which holes become a guide for the tool as the holes are bored in the music-box cylinder. By this device any number of cylinders for playing the same tune can be made; they will all be exactly alike, and their cost will be materially lessened, because skilled labor will not be required in their production after the pattern-cylinder is made, and one cylinder can be made to contain the pins for several tunes with much less trouble than heretofore.

In the drawing, Figure 1 is a sectional elevation of the pattern and music cylinders connected together, and Fig. 2 is a cross-section of the same.

a represents the pattern-cylinder, made of hardened metal, and of a size to receive within it the cylinder *b* for the music-box. The cyl-

inder *a* is marked off by hand and holes *h* made therein at the various places required, the same as though an ordinary music-cylinder was being made. The music-cylinder is now placed within the pattern-cylinder, and the two firmly connected together. I have shown them as secured by a screw, at *c*. The two cylinders may be mounted upon a shaft, so that they can be revolved to bring the holes in the pattern-cylinder, one after another, opposite a boring-tool, *d*; and, if so placed, the parts are to be presented to the boring-tool in any suitable stock or slide-rest, so that the tool enters the hole in the pattern-cylinder and bores one in the music-cylinder, and so on until all the holes are made in the music-cylinder, at places indicated by the holes in the pattern-cylinder. The cylinder might be held in the hand and moved up to the boring-tool. I provide a pin and slot at *e*, so that, in case the two cylinders are separated previous to all the holes in the music-cylinder being made, said cylinder can be returned to place and properly positioned by this pin and slot, and the balance of the holes bored at the proper place.

Instead of boring the holes in the music-cylinder, as aforesaid, the surface of the cylinder may be marked by an instrument inserted within the holes of the pattern-cylinder, and then the two cylinders separated and the music-cylinder bored at the places indicated.

I claim as my invention—

A pattern-cylinder receiving within it the music-cylinder, and provided with holes at places corresponding to the position where the pins are to be placed in the music-cylinder, and through which holes the music-cylinder is bored or marked, as specified.

Signed by me this 26th day of August, A. D. 1873.

ARNOLD FRANKFELD.

Witnesses:

F. BÜRGER,
L. DU COMMUND.